

Myths Concerning Navistar's Advanced EGR vs SCR

Setting The Record Straight – Rumor vs Fact

Myth #1: Navistar / International Is Employing 'Massive EGR'

The Facts:

Every truck in the modern marketplace employs EGR (Exhaust Gas Recirculation), a proven technology. International's 'Advanced EGR' technology is only 5 percent more EGR than was used previously. In fact, Advanced EGR is only part of the equation Navistar uses in meeting 2010 emissions standards. New fuel injection technology which employs multiple fuel injections per cylinder stroke resulting in a more even, more complete burn of fuel and a new cylinder design which creates a more efficient vortex of air and fuel mixture are also important elements of the Navistar/International 2010 emissions solution.

Myth #2: SCR Offers Better Fuel Economy and Runs Cheaper Than Advanced EGR

The Facts:

The competition is not even factoring in the cost of urea fluid in fuel economy calculations. Though DEF is technically not a 'fuel', because the use of urea fluid is critical to the performance of a truck using SCR technology, the cost of urea fluid must be factored into any cost comparison. The net effect is a 'wash'...unless, that is, if the DEF used has been compromised by the driver or by fluid temperature, causing more DEF to be required for the same effect. In these situations, Advanced EGR is actually much more cost effective. (Note: It is estimated that DEF will cost between \$4 and \$6 per gallon, considerably more than the cost of diesel fuel today.)

Myth #3: Navistar / International is 'Going it alone' with unproven, unreliable technology.

The Facts:

Europe's top two diesel manufacturers, MAN (inventor of the diesel) and Scania, also have the technology to use EGR to meet tighter emission standards. Both MAN and Scania previously used SCR technology in Europe and have abandoned SCR for a technologically superior version of 'Advanced EGR' similar to what Navistar is using.

Myth #4: Navistar is not meeting 2010 emission standards, but instead is using emission credits from previous models to conform to the new standard.

The Facts:

Navistar is proud of its engine technology and the fact that it has put out engines in years past that exceeded emissions standards. Navistar is confident that its ongoing research will result in the ability of its MaxxForce engines to meet emissions standards in 2010 and beyond without the need to use emission credits from past years. Credits are redeemed at 80% of value, so the 20% not returned to Navistar is its contribution to the EPA and its ongoing efforts to improve the air we breathe and our environment. Recent statements by CARB (California Air Resources Board) have labeled Navistar's Advanced EGR as the "BEST AVAILABLE CONTROL TECHNOLOGY" for meeting 2010 emission standards. CARB also warns that the use of DEF may emit harmful toxins into the atmosphere.

Myth #5: MaxxForce engines will run hotter and will not have the durability and long life that truck buyers expect and need.

The Facts:

The MaxxForce engine has proven itself extremely reliable and, in actuality, runs cooler than Navistar's previous line of engines. In fact, Advanced EGR meets 2010 emission standards by **REDUCING** combustion chamber temperatures, thus creating less NOx in the cylinders. These lower temperatures are accomplished through both improvements to Navistar's cooling systems and through introduction of more EGR which, as a non-combustible gas, actually lowers combustion temperatures within the cylinder. SCR's higher combustion chamber temperatures allow higher levels of NOx to be created, which requires the use of diesel exhaust fluid in order to 'clean up' the exhaust emissions at the tailpipe.

Myth #6: Urea fluid, aka DEF, will be easy to use, is completely harmless, and will be readily and cheaply available anywhere.

The Facts:

In fact, urea fluid is a caustic substance that must be carefully handled to avoid both exposure to harmful vapors and damage to any surface not made of stainless steel or specially made plastics. Urea is a highly volatile substance, the temperature of which must be controlled to prevent contamination and degradation of its useful properties (i.e. cooling it in the Summer and heating it in the Winter). If compromised, even more urea fluid must be used to attain the same emissions reduction effect. Also, no system for the distribution, storage and marketing of urea fluid is widely available at present. SCR users must make hard choices about where to buy and how to store the urea fluid they use. Pricing of DEF is high because of necessary packing and handling concerns that must be dealt with. SCR users must also train its drivers on the proper handling of DEF, including the use of protective clothing, in addition to training service personnel on maintenance of the tanks, heating and cooling lines, and other equipment that SCR technology requires.

A high percentage of retail fuel outlets plan to sell urea/DEF in 2.5 to 5 gallon containers sold inside the store. To fill a 25 gallon urea tank, drivers would have to hand-carry five 5-gallon containers (or ten 2.5 gallon containers) weighing a total of approximately 225-250 lbs to fill the truck's urea tank.